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ABSTRACT

Severely physically disabled children may need special communication techniques or aids to help them in conversation/interaction and writing. An individual with speech problems may need an augmentative communication system, and selection of the right system, whether non-electronic or electronic, can be a complex process. To assist in the task of writing, many communication aids are available, such as portable typewriters, portable memo writers, portable computers, and stationary computers. Input devices used with many electronic communication aids can be modified to meet individual needs. A key factor in selecting a conversation or writing system is finding the technique that will allow a given individual to communicate as rapidly as possible. A list of information sources and evaluation services is included. (JDD)

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COMMONLY ASKED QUESTIONS - COMMUNICATION TECHNIQUES AND AIDS

Revised 1987

Q: I HAVE A SEVERELY PHYSICALLY DISABLED SON OR DAUGHTER. WHAT KIND OF COMMUNICATION TECHNIQUES OR AIDS ARE AVAILABLE?

In answering this question, you should be aware that there are two basic areas with which your child may need help:

1) Conversation/Interaction
2) Writing

We will deal with conversation first; writing is discussed below, starting on page 3.

Conversation/Interaction

Some people with severe physical disabilities that affect muscle control will also have difficulty with speech, since speech involves the use of a number of muscles. Some conditions that can cause this type of impairment are: cerebral palsy, muscular dystrophy, ALS (Lou Gehrig's Disease), spinal cord injury, and stroke. If a person has severe enough problems with speech, they may need some form of *augmentative communication* to use in conversation and other forms of interaction.

The term augmentative communication refers to some way of communicating that does not require speech. A person who uses augmentative communication may use speech and gestures, but will also use some special technique–such as pointing to words on a board–to get their ideas across. A number of techniques and aids have been developed. Some of them are fairly simple (such as a word board); others use sophisticated electronics. A communication aid that is more "high-tech" is not necessarily better: what is important is to select and develop the system that best meets the person's needs, abilities and constraints.

Selecting a Communication System

Because selecting the right communication system can be a complex process, it is best to be able to work directly with a professional team trained in augmentative communication techniques. Try contacting hospitals, rehabilitation agencies, non-profit disability organizations, the local school district, or state and local information and referral agenies to

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determine who in your area is the best trained and most experienced in augmentative communication. If there is no resource in your immediate area, you should consider having a formal evaluation (the first step in developing the communication system) done at a regional center that specializes in augmentative communication--even if this involves travelling some distance. Such a regional center is likely to have a greater number and variety of devices to see and try.

An evaluation can take anywhere from a couple of hours to a day or two. The clinical team will determine the most appropriate type of communication system for the person, and the best way for the person to control the system. Once a system is chosen, there is still a lot of work to do: the person must learn how to use the system, vocabulary must be selected, and custom alterations may have to be made. Certain systems may require remedial training to ensure that the person can use them properly. This training could require a series of sessions spanning several months.

Types of Communication Systems

The ultimate goal of augmentative communication is to allow the person to communicate with anyone about any topic. This is the goal the clinician works toward in helping the client choose the right kind of system. There are two basic kinds of systems: non-electronic and electronic.

Non-electronic communication systems take a variety of forms. *Communication boards* have letters, words or pictures displayed on them. The user points to choices in order to form messages. Pointing may done with the hand, with a *head-mounted pointer*, with a *lightbeam pointer*, or by other means. *Eye-gaze boards* allow the user to select words, etc. by looking at locations on the board. Since large communication boards are best suited to people with wheelchairs to mount them on, people who are ambulatory (walking) sometimes use *communication books*, which are more portable.

Electronic communication systems use some kind of electronic technology. These range from simple *rotary scanners*, which have a clock-like dial showing words or pictures, to *computerized aids* that provide electronic synthesized speech. Computerized aids have undergone a great deal of development in the past five years, and generally offer some combination of a visual display, a printer, and a synthesized voice for conveying messages. A variety of input devices (controls) are available, so that users with different physical capabilities can create messages. Keyboards, optical pointers (a device like a small flashlight mounted on the head), joysticks and special switches can all be used to control certain communication aids. Almost any voluntary muscle movement--even the blinking of an eye--can be used to control some communication aid. Selecting and positioning the control is also an important part of the evaluation process.

With young children whose communication ability is largely undeveloped, basic skills must be developed before a complete communication system like those described above can be implemented. Skills such as pressing on a switch or a keyboard, pointing with a hand or pointer, and initiating communication must sometimes be taught. In some cases basic concepts such as cause and effect or communication of needs must be taught and reinforced. Switches, lights, buzzers, toys, and simple computer programs can be used in the teaching process.

Writing

In addition to the need for conversation and interaction, most people have a need for some system of writing. Since handwriting can be difficult or impossible for a child with a physical disability, some way of typing is desirable. A number of options are available, including portable typewriters, portable memo writers, portable computers, and stationary computers. Many models of electronic communication aids also offer printed output. There are aids that make it easier for a person with physical impairments to use the keyboard on a computer or communication aid: these include keyguards and head-mounted pointers. Computers and many electronic communication aids can also be equipped to be controlled by some means other than the keyboard. Switches and lightbeam headpointers can be used as input devices with properly adapted systems. Some communication aids can also be connected to a computer in place of the computer's standard keyboard.

Writing is essential not only for personal needs or employment, but also for the education process. A writing system can provide the means to write and do independent work, take notes, do homework and complete assignments. We wouldn't think of sending an ordinary student to school without a pencil and paper. We shouldn't think of sending a student with a disability to school without a good writing system. Drawing is also an activity that the physically disabled student needs to accomplish: access to a computer can provide the chance to use graphic art and drawing programs.

Rate

A key factor that needs to be considered when selecting conversation or writing systems is the rate of communication. The various techniques for augmentative communication each require different abilities from the user, and have different efficiencies or speed factors. Some techniques can be used by only a small portion of the disabled population, but are faster. Other techniques can be used by almost anyone, but are generally slow (for example, scanning techniques). Thus the problem is not finding a technique which an individual *can* use, but rather finding the technique which will allow a *given* individual to communicate *as rapidly as possible.*

It is not uncommon for different techniques to vary in their communication rates by a factor of as much as ten to one. For this reason, it is usually best to involve someone with special training and an in-depth knowledge of all of the various techniques and approaches, especially the newer ones, when making a selection for a more expensive aid. Someone familiar with and trained in these specific strategies may be able to interface a child to a much faster aid than a person less familiar with these strategies.

Information Sources

You may also want to invest some time in learning about the various techniques and approaches yourself. This will assist you in your interactions with professional teams. The first recommendation is that you subscribe to *Communication Outlook*. This very application-oriented newsletter will provide you with a window on all of the latest developments in this field. It includes information on new aids as well as new books and publications. In addition

to subscribing to the newsletter, you may want to secure copies of their back issues, since many past articles may be of use to you as well. For a subscription contact:

International Society for Augmentative
and Alternative Communication
P.O. Box 1762, Station R
Toronto, Ontario M4G 4A3
CANADA

For general introductory information on the various techniques, you might look at *Augmentative Communication: an Introduction* (edited by Sarah Blackstone, available from the American Speech-Language and Hearing Association or the Trace Center).

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1500 Highland Avenue
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(608) 262-6966

American Speech-Language and Hearing Association
10801 Rockville Pike
Rockville, MD 20852
(301) 897-5700

Dr. Blackstone also has a newsletter, entitled *Augmentative Communication News.* To subscribe contact:

Augmentative Communication News
One Surf Way
Suite #215
Monterey, CA 93940

For a listing of all of the existing commercially available aids, the only comprehensive source available is the *Rehab/Education ResourceBook Series.* These books contains descriptions, including photographs, of all of the types of aids described above. The ResourceBooks can be purchased either from the Trace Center or from College Hill Press, the publisher. This series is updated on a regular basis. You may also want to contact the Trace Center and request their "Information Available" brochure. It lists reprinted articles distributed by the Trace Center, including many on communication topics.

Evaluation Services

The Trace Center has an affiliated clinic that can perfom evaluations and provide recommendations for communication systems. The Communication Aids and Systems Clinic (part of the University of Wisconsin Hospital and Clinics) shares resources and staff with the Trace Center, allowing the evaluation team to evaluate clients in terms of that which is currently available and in terms of new and developing approaches.

The Clinic is staffed by a team which includes individuals with expertise in speech and language pathology, adaptive seating and positioning, occupational therapy, low and high

technologies, augmentative conversation and writing systems, and techniques to permit access to computers and word processing systems. The Clinic accepts clients on both an inpatient and outpatient basis. Outpatient evaluations take approximately one day, except where extensive seating and positioning modifications are required to optimize the individual's physical control.

For more information on the Clinic, please contact:

Ms. Donna DePape, M.S., CCC-Sp.
Communication Aids and Systems Clinic
S-120 Waisman Center
1500 Highland Avenue
Madison, WI 53705
(608) 263-7726

If you need services closer to your area, the Trace Center has a listing of service centers for augmentative communication around the country. The list is not complete and comprehensive, but will provide you with a place to start looking.